	Application No.	Applicant(s)
Notice of Allowability	10/698,453	SOEJIMA ET AL.
	Examiner	Art Unit	
	Hashem Farrokh	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/23/05*.

2. ☒ The allowed claim(s) is/are *1-3,5-10,16 and 20-22*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

            International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date *11/3/03*

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S COMMENT/AMENMENT

In the Office Action dated 8/20/05, the Examiner rejected the independent claims 1, 11, 19, and 21 and objected to the dependent claims 4-7, 10, and 20. The Applicant amended the independent claims filed on 11/23/05 and made a persuasive argument that independent claim 11 as amended has allowable subject matters that are not disclosed by the prior art references cited in the Office Action.

On 2/6/06 the Examiner initiated a telephone interview with the Applicants' representative (Mr. Daniel J. Stanger 32,846) on 2/6/06. The Examiner inquired whether the Applicant would be willing to amend the independent claim 19 to include the indicated allowable subject matters recited in claim 20. The Applicant agreed to the above proposal and performed several amendments to the claims including the amendments suggested by the Examiner. The Applicant emailed the Examiner a copy of the proposed amendments and the Examiner incorporated the amendments in an Examiner's amendment provided below.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Examiner's Amendment

Please amend the claims as follow:

1. (Previously presented) A storage area management method of a computer system having a storage area to store data, said method comprising steps of:

defining a possible data arrangement range in which the data can be arranged;

defining range information to judge whether or not data to be stored can be arranged in said storage area;

judging whether or not said possible data arrangement range is within the range indicated by said range information;

outputting whether or not said possible data arrangement range is within the range indicated by said range information;

defining data in a copy-source storage area and a copy-destination storage area;

accepting a request to copy the data that is included in said copy-source storage area to said copy-destination storage area from said copy-source storage area; and

copying said data in said copy-source storage area to said copy-destination storage area in accordance with judgment from the result of said outputting step, wherein said defined possible data arrangement range is designated for data in a copy-source storage area, and said defined range information is designated for a copy-destination storage area.

2. (Previously presented) A storage area management method according to claim 1, said method comprising steps of:

designating a range for storing the data;

judging whether or not the range indicated by said range information of said

storage area is within said designated range by referring to the range information of said

designated range; and

outputting whether or not the range indicated by said range information of said

storage area is within said designated range.

3. (Previously presented) A storage area management method according to claim 1,

said method further comprising the steps of:

designating a capacity for storing the data;

judging whether or not said storage area has free space equal to or greater than

said designated capacity;

outputting whether or not said storage area has free space equal to or greater

than said designated capacity.

4. (Canceled).

5. (Previously presented) A storage area management method according to claim 1,

wherein in the step of copying the data in said copy-source storage area to said copy-

destination storage area, said data in said copy-source storage area is copied in case of

judging that the range indicated said by range information for said copy-destination

storage area is within the said possible data arrangement range for the data in said

copy-source storage area.

6. (Previously presented) A storage area management method according to claim 1,
wherein in the step of copying the data in said copy-source storage area to said copy-
destination storage area, information of the possible data arrangement range of the data
in said copy-source storage area is also copied.

7. (Previously presented) A storage area management method according to claim 1,
wherein pre-defined processing is executed if it is judged that the range indicated by the
range information defined for said copy-destination storage area is not in the possible
data arrangement range of the data in said copy-source storage area.

8. (Previously presented) A storage area management method according to claim 1,
said method further comprising the steps of:

    obtaining typical range information in which all data in a storage area can be
arranged;

    wherein said possible data arrangement range is defined as said typical range
information in the step of defining said possible data arrangement range.

9. (Previously presented) A storage area management method according to claim 8,
wherein, in the step of obtaining said typical range information, the typical range
information of a storage area included in said storage area, or, a possible data
arrangement range of data in said storage area is obtained in advance, and a logically

narrower area when the typical range information of the storage area included in said

storage area is compared with the possible data arrangement range of the data in said

storage area, is designated as the typical range information of said storage area.

10. (Previously presented) A storage area management method according to claim 1,

said method further comprising the steps of:

acquiring a data capacity of said storage areas; and

judging whether or not said copy-destination storage area has free space equal

to or greater than the data capacity of said copy-source storage area;

wherein said data is not copied if said copy-destination storage area has no free

space equal to or greater than the data capacity of said copy-source storage area.

11-15. (Canceled)

16. (Currently amended) A data processing system according to claim 11, having a

storage device, wherein said storage device includes two or more storage areas;

wherein said data processing system includes a first storage area that is

associated with a data range in which data can be located, and a second storage area

that is associated with range information which specifies a storage area

location/attribute;

wherein said data processing system judges whether or not said first storage

area associated with said data range can be located in the second storage area

associated with said range information according to a comparison of said data range

and range information:

wherein said data processing system outputs said judging results:

wherein a data processing system defines data in a copy-source storage area

and a copy-destination storage area;

wherein a data processing system accepts a request to copy the data that is

included in said copy-source storage area to said copy-destination storage area from

said copy-source storage area;

wherein a data processing system copies said data in said copy-source storage

area to said copy-destination storage area judging from the output result of said data

processing system;

wherein said data range is designated for data in a copy-source storage area,

and said range information is designated for a copy-destination storage area.

17-19. (Canceled)

20. (Currently amended) A storage device ~~according to claim 19,~~ including two or more

storage areas:

wherein said storage device includes a first storage area that is associated with a

data range in which data can be located, and a second storage area that is associated

with range information which specifies a storage area location/attribute:

wherein said storage device judges whether or not said first storage area

associated with said data range can be located in the second storage area associated

with said range information according to a comparison of said data range and range

information;

wherein said storage device outputs said judging results;

wherein said storage device designates a capacity for storing the data;

wherein said storage device judges whether or not said storage area has free

space equal to or greater than said designated capacity;

wherein said storage device outputs the result of whether or not said storage

area has free space equal to or greater than said designated capacity.

21. (Previously presented) A data processing system comprising:

a-source storage device which has a volume including a copy-source storage

area;

a destination storage device which has a volume including a copy-destination

storage area;

wherein said source storage device and said destination storage device are

coupled to each other through communication devices;

wherein said source storage device and said destination device have a memory

storing a data copy program;

wherein the memory of said source storage device stores possible data

arrangement range information for the data in said copy-source storage area, and

volume range information for said copy-destination storage area;

wherein said destination storage device copies transmits said volume range

information for said copy-destination storage area to said source storage device, and

said source storage device judges whether or not the range indicated by said possible

data arrangement range information for the data in said copy-source storage area is

within the range indicated said volume range information for said copy-destination

storage area by referring to said possible data arrangement range information stored in

said memory; and

wherein said source storage device copies data from said copy source storage

area to said copy-destination storage area in case of judging that the range indicated by

said volume range information for said copy-destination storage area is within the range

indicated by said possible data arrangement range information for the data in said copy-

source storage area.

22. (Previously presented) A data processing system according to 21, wherein group

definition information is stored in the memory of said source storage device, and said

possible data arrangement range information can be defined by said group definition

information.

23-24. (Canceled)

REASONS FOR ALLOWANCE

The following are the Examiner's statements of reasons for allowance: The prior art does not teach or suggest the combination and relationship between these features:

1.   The primary reason for allowance of claims 1-10 in instant application is the combination with the inclusion of following limitations: **copying said data in said copy-source storage area to said copy-destination storage area in accordance with judgment from the result of said outputting step, wherein said defined possible data arrangement range is designated for data in a copy-source storage area, and said defined range information is designated for a copy-destination storage area**

2.   The primary reason for allowance of claims 16 and 20 in instant application is the combination with the inclusion of following limitations: **wherein said data processing system judges whether or not said first storage area associated with said data range can be located in the second storage area associated with said range information according to a comparison of said data range and range information**

3.   The primary reason for allowance of claims 21-22 in instant application is the combination with the inclusion of following limitations: **wherein said destination storage device copies transmits said volume range information for said copy-destination storage area to said source storage device, and said source storage device judges whether or not the range indicated by said possible data arrangement range information for the data in said copy-source storage area is**

within the range indicated said volume range information for said copy-

destination storage area by referring to said possible data arrangement range

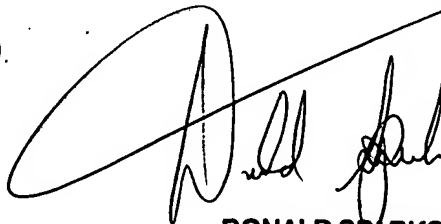**information stored in said memory**

Conclusion

Any inquiry concerning this communication should be directed to Hashem Farrokh whose telephone number is (571) 272-4193. The examiner can normally be reached Monday-Friday from 8:00 AM to 5:00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks, can be reached on (571) 272-4201.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic-Business Center (EBS) at 866-217-9197 (toll-free).

HF

2006-02-14

DONALD SPARKS
SUPERVISORY PATENT EXAMINER